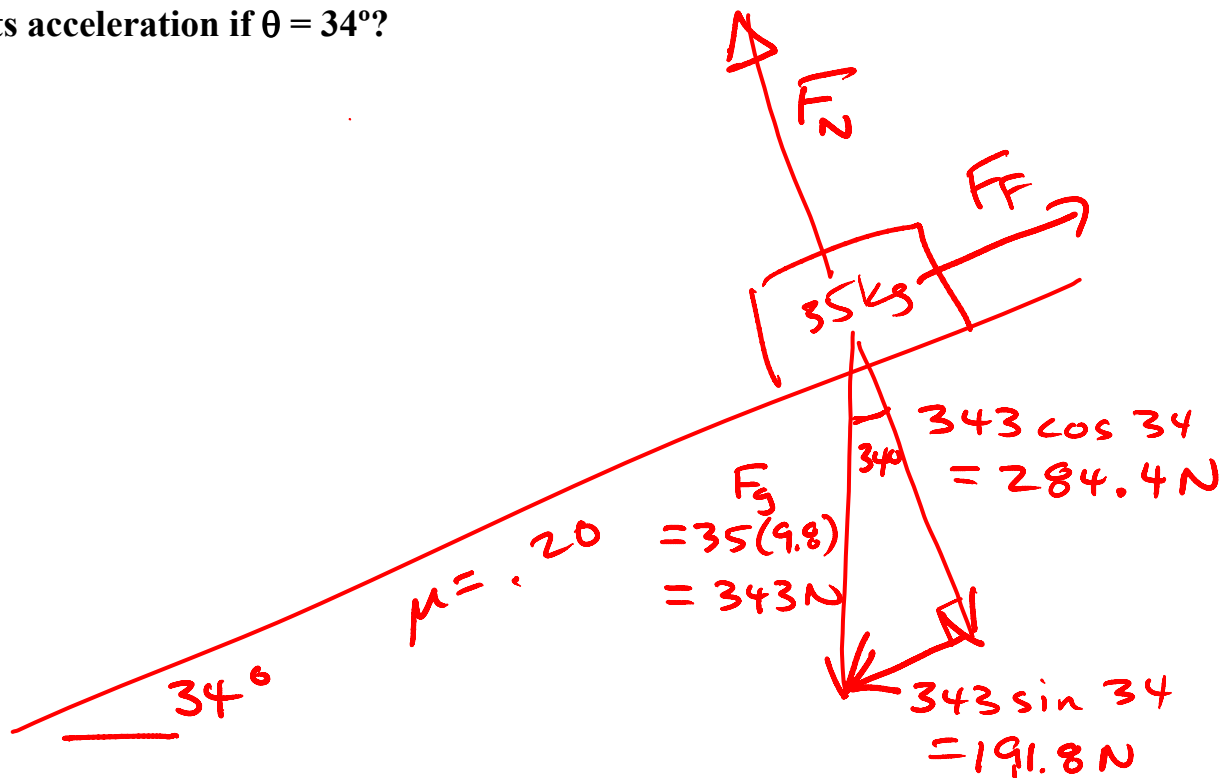


Example #8. A 35 kg mass is set on a smooth inclined surface of $\mu=0.20$. What is its acceleration if $\theta = 34^\circ$?



→ analyze \perp forces to find F_N :

$$F_N = 284.4 \text{ N}$$

$$\rightarrow F_f = \mu F_N = .20(284.4) = 56.9 \text{ N}$$

→ analyze \parallel forces to find $F_{\text{net}} + a$:

$$F_{\text{net}} = 191.8 - 56.9 = 134.9 \text{ N}$$

$$F_{\text{net}} = ma \quad 134.9 = 35a$$

$$a = 3.9 \text{ m/s}^2$$